What is claimed is :

1. A system for multi-path simulation comprising:

a signal generator for generating a signal;

a signal-simulating unit coupled to the signal generator for dividing and adjusting the signal into N simulation signals in N ways to simulate attenuations and delays resulted from a transmission of the signal in N paths, wherein N is an integer larger than one; and

a shielded anechoic chamber comprising N antennas which are coupled to the signal-simulating unit and used to transmit the N simulation signals respectively.

2. The system of claim 1, wherein the signal-simulating unit comprises:

an attenuating device for attenuating the signal to generate an attenuated signal;

a power divider coupled to the attenuating device for dividing the attenuated signal into N attenuated sub-signals;

N attenuators coupled to the power divider for attenuating the N attenuated sub-signals respectively to simulate the attenuations resulted from the transmission of the signal in the N paths; and

N-1 delay lines coupled to N-1 ones of the N attenuators respectively for delaying N-1 ones of the N attenuated sub-signals to simulate the delays resulted from the transmission of the signal in N-1 ones of the N paths.

3. The system of claim 2, wherein when N is two, the two attenuators are a first and a second attenuators which attenuate a first and a second attenuated sub-signals respectively, and the signal-simulating unit further comprises:

a phase shifter coupled to the first attenuator for adjusting a phase of the first attenuated sub-signal to simulate a phase offset resulted from the transmission of the signal in the two paths.

4. The system of claim 2, wherein the attenuating device is a step attenuator.

5. The system of claim 1, wherein the signal-simulating unit comprises:

a power divider coupled to the signal generator for dividing the signal into N sub-signals;

N attenuators coupled to the power divider for attenuating the N sub-signals respectively to simulate the attenuations resulted from the transmission of the signal in the N paths; and

N-1 delay lines coupled to N-1 ones of the N attenuators respectively for delaying N-1 ones of the N sub-signals to simulate the delays resulted from the transmission of the signal in N-1 ones of the N paths.

6. The system of claim 5, wherein when N is two, the two attenuators are a first and a second attenuators which attenuate a first and a second sub-signals respectively, and the signal-simulating unit further comprises:

a phase shifter coupled to the first attenuator for adjusting a phase of the first sub-signal to simulate a phase offset resulted from the transmission of the signal in the two paths.

7. The system of claim 1, wherein the shielded anechoic chamber further comprises:

a communication device for receiving the N simulation signals.

8. The system of claim 7, wherein the shielded anechoic chamber further comprises:

a turntable for setting the communication device and changing a reception azimuth of the communication device.

9. The system of claim 7, wherein the communication device is deployed in a quiet zone of the shielded anechoic chamber.

10. The system of claim 1, wherein the signal generator is a vector signal generator.

11. The system of claim 7, wherein the signal generator is a Golden Sample

of the communication device.

12. A method for multi-path simulation comprising:

generating a signal;

dividing and adjusting the signal into N simulation signals in N ways to simulate attenuations and delays resulted from a transmission of the signal in N paths, wherein N is an integer larger than one;

transmitting the N simulation signals by N antennas deployed in a shielded anechoic chamber, respectively; and

receiving the N simulation signals by a communication device deployed within the shielded anechoic chamber.

13. The method of claim 12, wherein the signal is generated by a vector signal generator.

14. The method of claim 12, wherein the signal is generated by a Golden Sample of the communication device.

15. The method of claim 12, wherein the dividing and adjusting step comprises:

attenuating the signal to generate an attenuated signal;

dividing the attenuated signal into N attenuated sub-signals;

attenuating the N attenuated sub-signals respectively to simulate the attenuations resulted from the transmission of the signal in the N paths; and

delaying the N attenuated sub-signals respectively to simulate the delays resulted from the transmission of the signal in the N paths.

16. The method of claim 15, wherein when N is two, the attenuated signal is divided into a first and a second attenuated sub-signals, and the dividing and adjusting step further comprises:

adjusting a phase of the first attenuated sub-signal to simulate a phase offset resulted from the transmission of the signal in the two paths.

17. The method of claim 15, wherein the signal is attenuated to generate the

attenuated signal by a step attenuator.

18. The method of claim 12, wherein the dividing and adjusting step comprises:

dividing the signal into N sub-signals;

attenuating the N sub-signals respectively to simulate the attenuations resulted from the transmission of the signal in the N paths; and

delaying the N sub-signals respectively to simulate the delays resulted from the transmission of the signal in the N paths.

19. A method for measuring a diversity gain of a communication device, the communication device being able to switch between a single antenna mode and an antenna diversity mode and deployed within a shielded anechoic chamber, the method comprising:

setting the communication device to the single antenna mode;

generating a testing signal;

attenuating the testing signal by a first attenuation setting;

dividing and adjusting the attenuated testing signal into N simulation signals in N ways to simulate attenuations and delays resulted from a transmission of the testing signal in N paths, wherein N is an integer larger than one;

transmitting the N simulation signals by N antennas deployed within the shielded anechoic chamber;

receiving the N simulation signals by the communication device;

measuring a signal parameter received by the communication device to acquire a reference value;

switching the communication device to the antenna diversity mode and attenuating the testing signal by a second attenuation setting to adjust the signal parameter equal to the reference value; and

calculating a difference between the first and second attenuation settings to obtain the diversity gain of the communication device.

20. The method of claim 19, wherein the testing signal is generated by a vector signal generator.

21. The method of claim 19, wherein the testing signal is generated by a Golden Sample of the communication device.

22. The method of claim 19, wherein the testing signal is attenuated by the first and second attenuation settings by a step attenuator.

23. The method of claim 19, wherein the signal parameter is selected from a group consisting of signal strength, a signal quality parameter and throughput.

24. A method for measuring a diversity gain of a communication device, the communication device being able to switch between a single antenna mode and an antenna diversity mode and deployed within a shielded anechoic chamber, the method comprising steps of:

a. setting the communication device to the single antenna mode;

b. generating a testing signal;

c. dividing and adjusting the testing signal into N simulation signals in N ways to simulate attenuations and delays resulted from a transmission of the testing signal in N paths, wherein N is an integer larger than one;

d. transmitting the N simulation signals by N antennas deployed within the shielded anechoic chamber;

e. receiving the N simulation signals by the communication device;

f. measuring a signal parameter received by the communication device to acquire a reference value;

g. switching the communication device to the antenna diversity mode and repeating the steps b to f to adjust the signal parameter equal to the reference value; and

h. selecting one of the N ways and calculating a difference of the simulation signal in the selected way between the single antenna and antenna diversity modes to obtain the diversity gain of the

communication device.